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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/892,307

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EXAMINER

DANG, THUAN D

ART UNIT

PAPER NUMBER

1764

MAIL DATE

DELIVERY MODE

10/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/892,307

Applicant(s)

XU ET AL.

Examiner

Thuan D. Dang

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 22 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 and 22 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/13/02.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

“said catalyst comprises silicoaluminophosphate as said molecular sieve” has not supported from the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 17, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pieters et al (4,638,106) incorporated with Argauer et al (3,702,886).

On column 11, lines 32-38, Pieters discloses that the disclosure of 3,702,886 is incorporated by reference.

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Pieters et al disclose a conversion process including a step of contacting an oxygenate feed such as methanol and an aromatic cofeed such as xylenes in the presence of a zeolite such as ZSM-5 having Gallium in the framework as called for in claims 1-7 (the abstract; col. 8, lines 63-68; col. 9, line 65-67; col. 10, lines 46-50; col. 11, lines 28-45; col. 16, lines 34-45).

The mole ratio of oxygenate and aromatic as called for in claim 8 can be found on column 16, lines 59-66.

The condition of the conversion as called for in claims 9 and 10 can be found on column 17, lines 51-68.

The ratio of ethylene and propylene in the product as called for in claims 11 and 12 as expected can be found on table 1 on column 21 and 22.

The ratio of Si/Ga molar ratio can be found in the abstract of Argauer.

Pieters discloses a process pressure of about 1 atmosphere on column 17, line 66. Pieters also discloses what is contained in the feed of the conversion reactor (see the whole patent to Pieters for details).

With a calculation, the partial pressure of the oxygenate feed of the prior art pressure must be greater than 6.9 kPa.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pieters et al (4,638,106) incorporated with Argauer et al (3,702,886) in view of Lewis et al (4,861,938).

Pieters discloses a process as discussed above.

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Pieters does not disclose that silicoaluminophosphate is also included in the catalyst (see the entire patent to Pieters for details). However, Lewis discloses using silicoaluminophosphate to catalyze the conversion of oxygenates to olefins (the abstract; col. 19, lines 26-37; col. 20, lines 10-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pieters process by using a mixture of the Lewis silicoaluminophosphates and the Pieters catalyst to catalyze the oxygenate conversion since it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which to be used for the very same purpose. *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

Claims 13-15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieters et al (4,638,106) incorporated with Argauer et al (3,702,886) in view of Verduijn et al (6,150,293).

Pieters et al does not disclose using a zeolite bound zeolite catalyst as called for in claims 1-15, 18, and 19. However, as taught by Verduijn, a similar catalyst can be used for converting oxygenates to olefins (the abstract; col. 5, lines 10-30; col. 9, section (u)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Pieters process by using the Verduijn zeolite bound zeolite catalyst since the Verduijn catalyst has good strength and integrity (the abstract).

Response to Arguments

Applicant's arguments filed 8/2/06 have been fully considered but they are not persuasive.

The argument that the amendment of claim 16 can be found the support from the sentence bridging pages 6 and 7 of the specification is not persuasive since the specification does not disclose how the silicoaluminophosphate is used in the process (see the bridging paragraph of pages 5 and 6 of the specification).

The argument that claim 1 has been amended to recite the catalyst has Si/Ga molar ratio ranging from 5 to 500 which is not disclosed by Pieters is not persuasive since the incorporated reference - Argauer (3,702,886) - disclose this ratio (see the above 102 rejection).

The argument that Lewis does not teach that an aromatics co-fed is also present is not persuasive since this feature is taught by Pieters.

The argument that although claim 16 does not exclude the presence of an additional catalyst by its inclusion the term "comprising" such an additional catalyst is not required is not persuasive since applicants do not exclude an additional catalyst.

The argument that Verduijn does not disclose the presence of aromatic co-feed is not persuasive since this feature is disclosed by Pieters.

The argument that applicants submitted that they have demonstrated unexpectedness in a narrower temperature range from about 300 to 450°C which is within the temperature range disclosed by Verduijn patent is not persuasive since only claim 22 recite this range of temperature. Claim 22 is rejected under 102 which cannot be overcome by unexpected results.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 571-272-1445. The examiner can normally be reached on Mon-Thu.

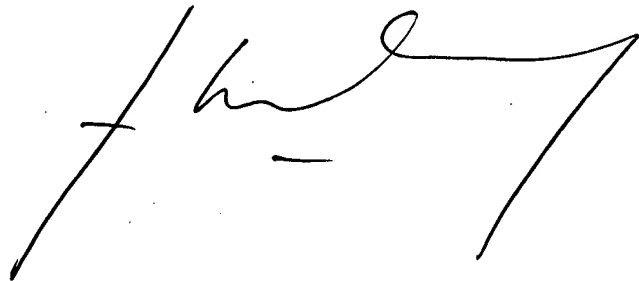
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thuan D. Dang
Primary Examiner
Art Unit 1764

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A handwritten signature in black ink, appearing to be 'Thuan D. Dang', written over a horizontal line.